

ABSTRACT

Disclosed is a method of forming the metal line in the semiconductor device. The method comprising the steps of forming an interlayer insulating film on a semiconductor substrate in which a lower line is formed, patterning the interlayer insulating film to form an aperture unit for forming an upper line connected to the lower line, cooling the semiconductor substrate in which the aperture unit is formed at a given temperature, implementing a cleaning process using a hydrogen reduction reaction in order to remove polymer formed on the sidewall of the aperture unit and a metal oxide film formed on the lower line, implementing an annealing process in-situ within a chamber in which the cleaning process is implemented, and burying the aperture unit with a conductive material to form an upper line.